In the Claims:

1. (Currently Amended) A control system for an automotive vehicle having a wheel and wheel brake comprising:

a wheel speed sensor generating a rotational speed signal; and

a controller coupled to the wheel speed sensor, said controller determining a vehicle speed, calculating an actual wheel slip based upon the vehicle speed and the rotational speed, estimating a normal force on the wheel, calculating a modified brake torque signal in response to a saturation function of a threshold slip and the actual wheel slip, an approximated friction curve slope, and the normal force, and actuating the wheel brake in response to the modified brake torque signal.

2. (Original) A system as recited in claim 1 further comprising a vehicle speed sensor, said controller determining vehicle speed from the vehicle speed sensor.

3. (Original) A system as recited in claim 2 wherein the vehicle speed sensor comprises plurality of wheel speed sensors.

4. (Cancel)

5. (Original) A system as recited in claim 1 wherein said controller measures a wheel deceleration from the wheel speed sensor; when the wheel deceleration is above a threshold applying the modified torque.

6. (Original) A system as recited in claim 5 wherein said controller applies an unmodified torque when the wheel deceleration is below a threshold.

7. (Currently Amended) A method of controlling a vehicle having a wheel and wheel brake comprising:

measuring rotational speed of a wheel;

determining a vehicle speed;

calculating an actual wheel slip based upon the vehicle speed and the rotational speed;

estimating a normal force on the wheel;

calculating a modified brake torque signal in response to a saturation function of a threshold slip and the actual wheel slip, an approximated friction curve slope, and the normal force; and

actuating the wheel brake in response to the modified brake torque signal.

8. (Cancel)

9. (Original) A method as recited in claim 7 further comprising measuring a wheel deceleration; when the wheel deceleration is above a threshold applying a modified brake torque.

10. (Original) A method as recited in claim 9 further comprising applying an unmodified torque when the wheel deceleration is below a threshold.

11. (Original) A method as recited in claim 7 further comprising when the vehicle speed is above a speed threshold, performing calculating wheel slip based upon the vehicle speed and the rotational speed, estimating a normal force on the wheel, calculating a modified brake torque signal in response to the wheel slip and the normal force, and actuating the wheel brake in response to the modified brake torque signal when a wheel deceleration is below a threshold.

12. (Currently Amended) A method as recited in claim 7 wherein calculating an actual wheel slip comprises calculating a normalized wheel slip value.

13. (Original) A method as recited in claim 7 wherein determining a vehicle speed comprises determining a vehicle speed in response to the wheel speed.

14. (Currently Amended) A method of controlling braking of an automotive vehicle having a plurality of wheels and brakes comprising:

measuring rotational speed of the plurality of wheels;

determining a vehicle speed;

calculating a respective actual wheel slip for the plurality of wheels based upon the vehicle speed and a respectiv rotational speed;

estimating a normal force on the plurality of wheels;

calculating a respective modified brake torque signal in response to a saturation function of a threshold slip and the actual wheel slip, an approximated friction curve slope, and the normal force for each of the plurality of wheels; and

actuating a respective brake in response to the respective modified brake torque signal.

15. (Cancel)

16. (Original) A method as recited in claim 14 further comprising measuring a wheel deceleration; when the wheel deceleration is above a threshold applying the respective modified torque, and applying an unmodified torque when a wheel deceleration is below a threshold.

17. (Original) A method as recited in claim 14 wherein calculating a respective wheel slip comprises calculating a respective normalized wheel slip value.

18. (Original) A method as recited in claim 14 wherein determining a vehicle speed comprises determining a vehicle speed in response to the wheel speed.

19. (New) A system as recited in claim 1 wherein the controller calculates a modified brake torque signal in response to a saturation function of a difference of a threshold slip and the actual wheel slip, an approximated friction curve slope, and the normal force.

20. (New) A system as recited in claim 1 wherein the controller calculates a modified brake torque signal in response to a saturation function of a difference of a threshold slip, the actual wheel slip and a boundary later thickness, an approximated friction curve slope, and the normal force.

21. (New) A system as recited in claim 1 wherein the controller calculates a modified brake torque signal in response to a saturation function of a difference of a threshold slip, the actual wheel slip and a boundary later thickness, a convergence factor, an approximated friction curve slope, and the normal force.

22. (New) A method as recited in claim 7 wherein calculating a modified brake torque signal in response to a saturation function of a threshold slip and the actual wheel slip, an approximated friction curve slope, and th normal force comprises calculating a

modified brake torque signal in response to a saturation function of a difference of a threshold slip and the actual wheel slip, an approximated friction curve slope, and the normal force.

23. (New) A method as recited in claim 7 wherein calculating a modified brake torque signal in response to a saturation function of a threshold slip and the actual wheel slip, an approximated friction curve slope, and the normal force comprises calculating a modified brake torque signal in response to a saturation function of a difference of a threshold slip, the actual wheel slip and a boundary later thickness, an approximated friction curve slope, and the normal force.

24. (New) A method as recited in claim 7 wherein calculating a modified brake torque signal in response to a saturation function of a threshold slip and the actual wheel slip, an approximated friction curve slope, and the normal force comprises calculating a modified brake torque signal in response to a saturation function of a difference of a threshold slip, the actual wheel slip and a boundary later thickness, a convergence factor, an approximated friction curve slope, and the normal force.

25. (New) A method as recited in claim 14 wherein calculating a respective modified brake torque signal in response to a saturation function of a threshold slip and the actual wheel slips, an approximated friction curve slope, and the normal force for each of the plurality of wheel comprises calculating a respective modified brake torque signal in response to a saturation function of a difference of a threshold slip and the actual wheel slips, an approximated friction curve slope, and the normal force for each of the plurality of wheel.

26. (New) A method as recited in claim 14 wherein calculating a respective modified brake torque signal in response to a saturation function of a threshold slip and the actual wheel slips, an approximated friction curve slope, and the normal force for each of the plurality of wheel comprises calculating a respective modified brake torque signal in response to a saturation function of a difference of a threshold slip, the actual wheel slips and a boundary later thickness, an approximated friction curve slope, and the normal force for each of the plurality of wheel.

27. (New) A method as recited in claim 14 wherein calculating a respective modified brake torque signal in response to a saturation function of a threshold slip and the actual wheel slips, an approximated friction curve slope, and the normal forc for each of the

plurality of wheel comprises calculating a respective modified brake torque signal in response to a saturation function of a difference of a threshold slip, the actual wheel slips and a boundary later thickness, a convergence factor, an approximated friction curve slope, and the normal force for each of the plurality of wheel.